

Notice of Allowability

Application No.

10/781,099

Examiner

Betsy L. Deppe

Applicant(s)

PAYNE ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed 9/11/07.
2. ☒ The allowed claim(s) is/are 1,2,5,9,10,20-23 and 27-36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. The application has been amended as follows:

in claim 22, line 2, insert --phase-- before "interpolator" in order to be consistent with the terminology in claim 1, line 10; and

in claim 23, line 2, insert --phase-- before "interpolator" in order to be consistent with the terminology in claim 1, line 10.

3. The following is an examiner's statement of reasons for allowance:

with regard to claims 1, 2, 5, 9, 10 and 20-23, prior art of record does not teach or suggests in combination a clock recovery device comprised of a finite state machine and a phase interpolator, as recited in claim 1, lines 6-12, in combination with the other recited limitations;

with regard to claims 27-34, prior art of record does not teach or suggests in combination a method of clock recovery comprised of the steps recited in claim 27, lines 5-14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably


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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Betsy L. Deppe
Primary Examiner
Art Unit 2611

EXAMINER'S AMENDMENT

6-8. (Canceled)

9. (Currently amended) The device of claim 1, wherein the bandwidth of the clock recovery ~~[[loop]]~~ device can be controlled by selecting multiple phase updates from the phase interpolator ~~[[or by controlling a latency of the updates]]~~.

10. (Original) The device of claim 1, wherein the finite state machine comprises a decode circuit and a plurality of delay elements operable to selectively determine the quantity of phase correction steps per update based on a function of the data rate input, and to connect the delay elements in a configuration to provide the required steps.

11-19. (Canceled)

20. (Original) The device of claim 1, wherein the programmable divider comprises a plurality of dividers connected to a multiplexor, the dividers each having a fixed divide ratio, the multiplexor configured to select an output of one of the dividers based on a function of the data rate input to provide a programmable data rate and a substantially fixed device bandwidth.

21. (Original) The device of claim 20, wherein a portion of the plurality of fixed dividers are serially connected to each other and to the multiplexor, the multiplexor configured to select the output of one of the dividers based on a function of the data rate input to provide a programmable data rate and a substantially fixed device bandwidth.

22. (Original) The device of claim 1, wherein the programmable divider functionally resides after the ~~the~~ ^{phase} interpolator.

23. (Original) The device of claim 1, wherein the programmable divider functionally resides between the ~~the~~ ^{phase} interpolator and the input data sampler.

24-26. (Canceled)